

# BLUEPRINT

California Energy Commission  
Efficiency Division

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## CBECC-Res FAQs Updated

Do you have questions about CBECC-Res, the free residential compliance software from the California Energy Commission (Energy Commission)? The Commission publishes **Frequently Asked Questions (FAQs) about CBECC-Res** that addresses hot topics related to the software. The FAQs were recently updated and include seven new questions and answers.

## Fewer and Simpler Nonresidential Forms

One of the Energy Commission's goals is to reduce the number of compliance documents (forms). The 47 prescriptive nonresidential certificates of compliance (NRCC) are being cut to 10 forms. There will be one form for each building component – lighting, envelope, mechanical, etc. This lessens confusion about when to use which form.

These simplified forms incorporate dynamic features. Each form follows a similar format and offers similar features, simplifying completion and review.

Five **dynamic forms** have already been posted for:

- |                                 |                    |
|---------------------------------|--------------------|
| » Electrical Power Distribution | » Outdoor Lighting |
| » Indoor Lighting               | » Sign Lighting    |
|                                 | » Solar Ready      |

The five forms that will be posted in the future are for:

- |                     |                 |
|---------------------|-----------------|
| » Commissioning     | » Envelope      |
| » Covered Processes | » Mechanical    |
|                     | » Water Heating |

These forms are available for use now! Enforcement agencies may continue to use the static forms at their discretion. When the *2019 Building Energy Efficiency Standards* (Energy Code) is implemented, these 10 reformatted NRCC forms will be the only prescriptive nonresidential forms used.

## Simplified 2016 Power Distribution and Solar Ready Forms

Two simplified forms are now available to document compliance with the nonresidential electrical power distribution (ELC) and solar ready (SRA) requirements. These forms simplify the compliance process for everyone involved including the contractor, plans examiner, and building department. They are project specific and expand and contract based on the project scope – reducing the total number of pages of forms for most projects.

New features include:

- » One signature block
- » Table C – Compliance Results give a quick check of the inputs on the first page and will indicate if the project “COMPLIES”
- » User selections limit drop-down menus and table options to guide users toward compliant designs
- » Hyperlinks to the Energy Code

The new **NRCC-ELC-E** and **NRCC-SRA-E** are available now.

Enforcement agencies may continue to use the static forms at their discretion.

## Thank You, LBO and City of Chico!

The Energy Commission sends a big THANK YOU to the Local Building Officials (LBO) and the City of Chico. LBO worked with the Energy Commission to organize a series of seven classes on the 2016 Energy Code. The classes covered residential envelope, the benefits of modeling, nonresidential lighting, and more.

The City of Chico hosted and promoted these free classes. Attendees included building officials, building department staff, contractors, designers, and energy consultants. Several of these classes provided students with free International Code Council (ICC) Preferred Provider continuing education units.

Is your jurisdiction interested in hosting Energy Code classes? If so, contact the **hotline** for more information.

## Covered Processes Quick Reference Guide Available

Do you know when compliance with the Energy Code is triggered for covered processes? The Energy Commission has released the **Covered Processes Quick Reference Guide**. This handy guide tells you when compliance is required, what equipment is covered, and if acceptance testing must be completed.

## Rebuilding After Disasters

The Energy Commission gets a lot of questions about which code cycle must be met when rebuilding after a disaster. Per **Section 100.0(a)2**, the code that is in effect on the date you apply for a building permit is the code that must be met. Any building permit application submitted on or after January 1, 2017, must meet the 2016 Energy Code.

For more information, please see Energy Code Ace's **Recover and Rebuild** fact sheet.

## Presentations Posted

Seven 2016 Energy Code presentations are available for download from the **Online Resource Center**.

The information in these presentations include:

- » Covered Processes » Lighting
- » Envelope
  - Nonresidential
  - Cool Roofs
  - Residential
- » Water Heating
  - Residential
- » HVAC
  - Nonresidential

## Regulatory Advisory

The Energy Commission has issued a **regulatory advisory** regarding manufactured fenestration (windows, skylights, and glass doors) labels. There are only two types of acceptable labels – National Fenestration Rating Council (NFRC) labels, or labels that use default values. The advisory reviews labeling requirements and provides samples of acceptable labels, per the requirements of Sections **10-111** and **110.6**.

## Accessory Dwelling Units

Accessory dwelling units (ADUs) are most commonly defined as secondary dwelling units on residential lots. They can be used to house family (also known also as granny or in-law units), visitors, or even as rental properties to supplement income. ADUs, like all other residential structures in California, are subject to the Energy Code.

In most instances, when complying with the 2016 Energy Code, ADUs are considered **additions**. Additions are changes to a building that increase conditioned floor area and conditioned volume. The only scenario where an ADU would be considered a **newly constructed building** is if it was a new structure and shared no common walls with the existing building. This means that for compliance with the Energy Code, attached ADUs, as well as converted existing structures, are considered additions.

This issue of *Blueprint* includes frequently asked questions about ADUs. For more information on ADUs, visit the California Department of Housing and Community Development's **website**.

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## Q&A

### Accessory Dwelling Units

**When an existing attached unconditioned structure (like a garage) is converted to an ADU, is it an addition or a newly constructed building?**

This is an addition. See Figure 1 for an illustration of this example.



Figure 1 - Existing house, attached garage being converted to an ADU

**When an ADU is built new sharing a common wall with the existing house, is it an addition or a newly constructed building?**

This is an addition. See Figure 2 for an illustration of this example.



Figure 2 - Existing house, newly constructed attached ADU

**When an existing detached unconditioned structure (like a garage) is converted to an ADU, is it an addition or a newly constructed building?**

This is an addition. See Figure 3 for an illustration of this example.



Figure 3 - Existing house, detached garage being converted to an ADU

**When an ADU is built new and is detached from the existing house, is it an addition or a newly constructed building?**

This is a newly constructed building. This building would need to meet the requirements as a new building. See Figure 4 for an illustration of this example.



Figure 4 - Existing house, newly constructed detached ADU

**When an existing unconditioned structure (like a garage) is converted to an ADU, what requirements do the existing walls need to meet?**

These walls are treated as “wall extensions,” and can meet the insulation requirements based on their existing dimensions, as described in Sections **150.2(a)1Ai** and **150.2(a)1Bii**. This requires R-15 in 2x4 framing, and R-19 in 2x6 framing.

**Do the whole building ventilation requirements apply to ADUs that are additions?**

The whole building ventilation requirements apply to additions that are greater than 1,000 square feet. While not required, it is recommended that the whole building ventilation requirements be met for new dwelling units. All other applicable ventilation requirements must be met. For example, if a bathroom or kitchen is part of the addition, the local exhaust requirements for those spaces must be met. More on local exhaust requirements can be found in **Section 4.6.5** of the *2016 Residential Compliance Manual*.

## Residential Performance Modeling and HERS Verification

I’m modeling a residential addition. The project includes quality insulation installation (QII), which requires home energy rating system (HERS) verification. Existing heating, ventilation, and air conditioning (HVAC) equipment will be used and less than 40 feet of ducting will be added.

**My project only requires HERS verification for QII. Why does the HERS Feature Summary on my certificate of compliance (CF1R) state:**

- » Refrigerant charge verification required if a refrigerant containing component is altered
- » Duct sealing required if a duct system component, plenum, or air-handling unit is altered

These two statements do not indicate that these verifications are required. They are meant to remind the builder that additional HERS verifications may be required depending on the scope of the project.

Some scopes are not covered in the performance report. For example, an air conditioner compressor is moved to a new location to accommodate an addition. This typically requires the replacement of portions of the refrigerant line or the installation of a new section of line. In some cases, an entirely new refrigerant line is installed. Per the requirements of **Section 150.2(b)1Fiib**, the alteration of a refrigerant containing component, in climate zones 2 and 8-15, triggers refrigerant charge verification. The needed verification is identified on the certificate of installation (CF2R-MCH-01-E).

For more information on residential modeling, visit your software vendor’s **FAQ** web page.

## LED Trim Kits

**Does an LED trim kit, like the one in Figure 5, need to be tested for elevated temperature and marked JA8-2016-E?**

No. LED trim kits do not need to be tested for elevated temperature or marked JA8-2016-E. LED trim kits (also called solid state lighting [SSL] downlight retrofit kits) are classified as luminaires, even though they are inserted into existing housing (can). When LEDs are inseparable from the kit, the kit is tested as a luminaire. The elevated temperature test does not apply to luminaires. The Energy Code classifies these kits as luminaires.

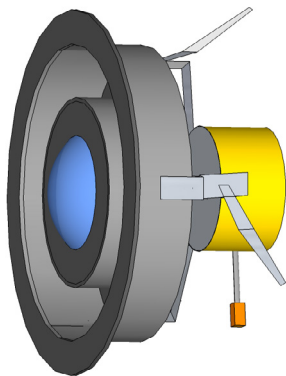


Figure 5 - LED trim kit

For reference, the 2016 Energy Code defines an **inseparable SSL luminaire** as:

*“A luminaire featuring solid state lighting components such as LEDs and driver components which cannot be easily removed or replaced by the end user, thus requiring replacement of the entire luminaire. Removal of solid state lighting components may require the cutting of wires, use of a soldering iron, or damage to or destruction of the luminaire.”*

## Insulating Refrigerant Lines

**Do refrigerant lines, also referred to as suction lines, for low-rise residential mini-splits have to meet the ¾” insulation requirement in TABLE 120.3-A?**

Yes. Suction line insulation for all residential HVAC systems, including mini-splits, must meet the ¾” thickness requirement.

## For More Information

**Home Energy Rating System:**

<http://www.energy.ca.gov/HERS/>

**Acceptance Test Technician**

**Certification Provider Program:**

<http://www.energy.ca.gov/title24/attcp/>

**Approved Compliance Software:**

[http://www.energy.ca.gov/title24/2016standards/2016\\_computer\\_prog\\_list.html](http://www.energy.ca.gov/title24/2016standards/2016_computer_prog_list.html)

**The California Energy Commission**

**welcomes your feedback on Blueprint.**

**Please contact Andrea Bailey at:**

[Title24@energy.ca.gov](mailto:Title24@energy.ca.gov)

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<b>Residential Standards for Plans Examiners and Building Inspectors</b> ★			
February 21 • 8:30 - 4:30	Orange	Bruce Cheney	barbie@aae-hers.com
March 1 • 8:30 - 4:30	San Diego	Bruce Cheney	sdge.com/eic/seminar
March 15 • 8:30 - 4:30	San Francisco	Marina Chavez	pge.com/energyclasses
March 20 • 8:30 - 4:30	Stockton	Marina Chavez	pge.com/energyclasses
March 21 • 8:30 - 4:30	Malibu	Bruce Cheney	barbie@aae-hers.com
March 28 • 8:30 - 4:30	Folsom	Brian Selby	pge.com/energyclasses
April 3 • 8:30 - 4:30	San Jose	Marina Chavez	pge.com/energyclasses
April 18 • 8:30 - 4:30	Fresno	Marina Chavez	pge.com/energyclasses
May 22 • 8:30 - 4:30	San Diego	Bruce Cheney	sdge.com/eic/seminar
May 25 • 8:30 - 4:30	Napa	Brian Selby	pge.com/energyclasses
September 6 • 8:30 - 4:30	San Diego	Bruce Cheney	sdge.com/eic/seminar
November 28 • 8:30 - 4:30	San Diego	Bruce Cheney	sdge.com/eic/seminar
<b>Nonresidential Standards for Plans Examiners and Building Inspectors</b> ★			
March 6 • 8:30 - 4:30	Newport Beach	Bruce Cheney	barbie@aae-hers.com
March 9 • 8:30 - 4:30	Santa Rosa	Brian Selby	pge.com/energyclasses
March 12 • 8:30 - 4:30	Watsonville	Brian Selby	pge.com/energyclasses
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November 7 • 8:30 - 4:30	San Diego	Bruce Cheney	sdge.com/eic/seminar
<b>Standards &amp; Technology for Residential Lighting</b> ★			
April 24 • 9:00 - 11:00	Stockton	Gina Rodda	pge.com/energyclasses
April 26 • 9:00 - 11:00	San Francisco	Gina Rodda	pge.com/energyclasses
<b>Standards &amp; Technology for Nonresidential Lighting</b> ★			
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May 24 • 8:30 - 4:30	San Jose	Gina Rodda	pge.com/energyclasses
<b>Nonresidential Standards for Architects</b> ★			
March 13 • 8:30 - 4:30	San Francisco	Martyn Dodd	pge.com/energyclasses
April 17 • 8:30 - 4:30	Fresno	Marina Chavez	pge.com/energyclasses
June 26 • 8:30 - 4:30	San Jose	Gina Rodda	pge.com/energyclasses
June 27 • 8:30 - 4:30	San Francisco	Gina Rodda	pge.com/energyclasses

**Software Training**

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<b>EnergyPro 7 Software for 2016 Title 24 Residential Compliance - Introduction</b> ★			
March 15 • 8:30 - 12:00	San Francisco	Martyn Dodd	pge.com/energyclasses
August 16 • 8:30 - 12:00	San Francisco	Martyn Dodd	pge.com/energyclasses
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<b>EnergyPro 7 Software for 2016 Title 24 Residential Compliance - Intermediate/Advanced</b> ★			
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<b>EnergyPro 7 Software for 2016 Title 24 Nonresidential Compliance - Introduction</b> ★			
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<b>Introduction to Nonresidential Modeling</b> 		
March 5 • 9:00 - 12:00	Online	Martyn Dodd
May 21 • 9:00 - 12:00		
July 2 • 9:00 - 12:00		
October 29 • 9:00 - 12:00		
<b>Introduction to Residential Modeling</b> 		
February 12 • 9:00 - 12:00	Online	Martyn Dodd
May 14 • 9:00 - 12:00		
August 20 • 9:00 - 12:00		
October 8 • 9:00 - 12:00		











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Nonresidential Standards for Energy Consultants				
March 6 - 8 • 9:00 - 12:00	Online	Brian Selby		
May 29 - 31 • 9:00 - 12:00		Martyn Dodd		
August 7 - 9 • 9:00 - 12:00		Brian Selby		
Nonresidential Modeling				
February 6 - 8 • 9:00 - 12:00	Online	Martyn Dodd		
May 24 - 24 • 9:00 - 12:00				
July 17 - 19 • 9:00 - 12:00				
October 23 - 25 • 9:00 - 12:00				
Residential Standards for Energy Consultants				
April 3-5 • 9:00 - 12:00	Online	Brian Selby		
July 10 - 12 • 9:00 - 12:00				
September 18 - 20 • 9:00 - 12:00				
October 16 -18 • 9:00 - 12:00				
Residential Modeling				
July 31 - August 2 • 9:00 - 12:00	Online	Martyn Dodd		
October 9 - 11 • 9:00 - 12:00				
December 11 - 13 • 9:00 - 12:00				



Virtual workshops: “roll-up-your-sleeves” interactive sessions delivered online in real-time by an instructor. Check [EnergyCodeAce.com](http://EnergyCodeAce.com) for registration information.

Analyzing the CF1R  		
March 19 • 9:00 - 12:00	Online	Martyn Dodd
April 16 • 9:00 - 12:00		
July 9 • 9:00 - 12:00		
October 15 • 9:00 - 12:00		
Residential Envelope and Solar Systems  		
April 6 • 9:00 - 12:00	Online	Luke Morton
June 19 • 9:00 - 12:00		
August 14 • 9:00 - 12:00		
October 2 • 9:00 - 12:00		
November 5 • 9:00 - 12:00		
Residential Mechanical Systems  		
February 28 • 9:00 - 12:00	Online	Brian Selby
April 23 • 9:00 - 12:00		Chandra Apperson
July 23 • 9:00 - 12:00		
September 6 • 9:00 - 12:00		
November 6 • 9:00 - 12:00		
Residential Modeling Tips  		
March 9 • 9:00 - 12:00	Online	Martyn Dodd
June 21 • 9:00 - 12:00		
August 6 • 9:00 - 12:00		
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DATE • TIME	LOCATION	INSTRUCTOR
2019 Title 24: Where We’re Headed With the Nonresidential Standards		
March 30 • 9:00 - 11:30	Online	Martyn Dodd
September 14 • 9:00 - 11:30		
December 7 • 9:00 - 11:30		
2019 Title 24: Where We’re Headed With the Residential Standards		
March 30 • 1:00 - 2:30	Online	Martyn Dodd
September 14 • 1:00 - 2:30		
December 20 • 1:00 - 2:30		



- Dynamic Nonresidential Compliance Forms
- Residential & Nonresidential Energy Efficiency Concepts ★
- Residential & Nonresidential HERS ★
- Residential Standards for AC Quality Installation Contractors ★
- Residential Standards for Indoor Lighting ★
- Residential Standards for Ventilation ★
- Residential Standards & Technology for Building Envelope ★
- Residential Standards & Technology for Solar Systems ★
- Residential Standards & Technology for Heating, Ventilation & Air Conditioning ★
- Residential Standards & Technology for Water Heating ★
- Nonresidential Lighting Wheel
- Nonresidential Standards for Indoor Lighting Mandatory Measures ★
- Nonresidential Standards for Indoor Lighting Prescriptive Compliance ★
- Title 20 Essentials: The Water-Energy Nexus ★

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- Title 20 Essentials: Why Certification Matters
- Title 20 Essentials: Using MAEDBS for Manufacturers
- Title 20 Essentials: Using MAEDBS for Third Party Certifiers
- Title 20 Essentials: Using MAEDBS for Test Laboratories
- Title 20 Essentials: California Appliance Standards for Retailers, Distributors, Contractors, and Importers



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